Public fast simulators - validation

Main questions:

- ▶ What do we validat?
- ▶ How do we perform validation and how can we systematize it?
- ▶ Are there ways to automate validation?
- ▶ What information is needed from the experiments to perform validation?

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What do we validate?

- ▶ Objects: Simulation/reconstruction efficiency of objects wrt kinematic variables.
  - ▶ Standard package that outputs object efficiencies for a given sample would be useful.
  - ▶ Problem: Object reconstruction efficiencies depend on event topology.
- ▶ Topologies: Is there a way to generalize object validation to take into account the topology for parametrized simulators?

How do we perform validation and how can we systematize it?

- ▶ We validate comparing kinematic distributions, efficiency maps (for a parameter space/point of a given physics model), (and worst of all) comparing limits. Is all that necessary? How do we compile all this information?
- ▶ Define some experiment-fastsim agreement measures, and write a standard package, which should avoid duplicating work.

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Are there ways to automate validation?

- ▶ Harrison's slides

What information is needed from the experiments to perform validation?

- ▶ Object and topology performance information is more desirable compared to model-dependent limits.
- ▶ The information is desired to be precisely defined and easily accessible.